

LISTING OF THE CLAIMS

A detailed listing of claims is presented below.

Please amend currently amended claims as indicated below including substituting clean versions for pending claims with the same number. In addition, clean text versions of pending claims not being currently amended that are under examination are also presented. It is understood that any claim presented in a clean version below has not been changed relative to the immediate prior version.

1. (Currently Amended) An exception handling mechanism comprising:

an exception handler for recording exception information dependant on types of exceptions and programming tasks that encounter exceptions; and

a recovery agent for taking an action upon an occurrence of an exception, wherein said action is performed outside of a debugging operation;

wherein the action to be taken upon the occurrence of the exception corresponds to a type of exception and a programming task, and includes one or a combination of restarting the programming task, terminating the programming task, resetting a system running the programming task, and disregarding the exception.

2. (Original) The mechanism of claim 1 wherein the recorded exception information associated with an exception is associated with a signature for identifying the recorded exception information with its associated exception.

3. (Original) The mechanism of claim 2 wherein the signature includes a version of a program running the programming task.

4. (Original) The mechanism of claim 1 wherein a plurality of sets of exception information for a plurality of exceptions is maintained in the system running the programming task; each set of exception information being associated with a signature for identifying that set of exception information.

5. (Original) The mechanism of claim 1 wherein the recorded exception information associated with an exception is associated with a signature for identifying the format of the exception information.

6. (Currently Amended) The mechanism of claim 1 wherein the recorded exception information includes data related to a ~~the~~ program stack, including data to reconstruct the program stack at time of exception.

7. (Original) The mechanism of claim 1 further comprising an analysis tool communicating via an interface with the system running the programming task, for identifying causes of the exception.

8. (Original) The mechanism of claim 7 wherein the analysis tool uses a version to match the object code of a program running the programming task to the source code of the program.

9. (Original) The mechanism of claim 1 wherein the exception handler and the recovery agent run on a first system embedded in a second system.

10. (Currently Amended) A processing system comprising:

a first system;  
a second system embedded in the first system;  
an exception handler running in the second system for recording exception information upon an occurrence of an exception in the second system; and  
a recovery agent running on the second system, for taking an action upon the occurrence of the exception based on the recorded exception information, wherein said action is performed outside of a debugging operation;  
wherein the action corresponds to a type of exception

and a programming task.

11. (Original) The processing system of claim 10 further comprising an analysis tool for receiving, via an interface, the recorded exception information from the second system and for identifying the cause of the exception.

12. (Original) The processing system of claim 10 wherein the second system includes nonvolatile memory for storing exception information.

13. (Original) The processing system of claim 12 wherein the exception information stored in the non-volatile memory is compressed.

14. (Original) The processing system of claim 12 wherein the exception information stored in non-volatile memory includes a plurality of sets of exception information, each set being associated with an exception and a signature.

15. (Currently Amended) A computing system comprising:

an exception handler for recording exception information on non-volatile memory upon an occurrence of an exception;

a recovery agent for taking an action upon the occurrence of the exception based on the recorded exception information, wherein said action is performed outside of a debugging operation; and

an analysis tool for identifying the cause of the exception;

wherein the analysis tool receives the exception information from the nonvolatile memory via an interface interfacing a first system and a second system running the exception handler and the recovery agent.

16. (Original) The computing system of claim 15 wherein the second system is embedded in a third system.

17. (Original) The computing system of claim 15 wherein the recorded exception information includes data related to a program stack.